

AMENDMENTS TO THE CLAIMS

Claims 1-18 were filed originally and were pending at the time of the Action.

Claims 5-8 are canceled.

Claim 1 is amended.

Accordingly, claims 1-4 and 9-18 remain pending.

1. (Once Amended) ~~In a distributed file system that stores files across multiple computers, a~~ A method comprising:

storing files across multiple computers in a distributed file system;

making changes to certain files;

collecting the changes that are made to the certain ~~multiple~~ files stored in the distributed file system; and

digitally signing the ~~multiple~~ changes in batch.

2. (Original) A method as recited in claim 1, wherein the collecting comprises:

computing a hash of data in each file that is affected by the changes; and

grouping the hashes together in batch for signing.

3. (Original) A data structure, embodied on a computer-readable medium, produced by the method of claim 1.

1 4. **(Original)** One or more computer readable media comprising
2 computer-executable instructions that, when executed, perform the method as
3 recited in claim 1.

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5 5. **(Canceled):**

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7 6. **(Canceled)**

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9 7. **(Canceled)**

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11 8. **(Canceled)**

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13 9. **(Original)** In a distributed file system that stores encrypted files
14 across multiple computers, a method comprising:

15 modifying one or more of the encrypted files;

16 computing a hash value of each modified encrypted file;

17 collecting the hash values into a group;

18 computing a hash value of the group; and

19 digitally signing the hash value of the group of hash values.

20
21 10. **(Original)** A method as recited in claim 9, wherein the modified
22 encrypted file includes a metadata stream containing a header and an indexing
23 structure, the indexing structure including hashes of the files and a structure to
24 access the hashes of the files, the computing a hash value of each modified
25

1 encrypted file further comprising deriving a hash of the header and at least part of
2 the structure.

3
4 11. (Original) A method as recited in claim 9, wherein the modified
5 encrypted file includes a metadata stream containing a header, per user
6 information, and an indexing tree, the indexing tree including hashes of the files,
7 branch nodes to access the hashes, and a root node, the computing a hash value of
8 each modified encrypted file further comprising hashing as a single composite the
9 header, the per user information, and the root node.

10
11 12. (Original) A data structure, embodied on a computer-readable
12 medium, produced by the method of claim 9.

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14 13. (Original) One or more computer readable media comprising
15 computer-executable instructions that, when executed, perform the method as
16 recited in claim 9.

17
18 14. (Original) One or more computer readable media comprising
19 computer-executable instructions that, when executed, direct a computing device
20 to:

21 modify individual files stored in a serverless distributed file system;

22 compute a hash value of each modified file;

23 collect the hash values into a group; and

24 digitally signing the group of hash values.

25

1 15. **(Original)** One or more computer readable media as recited in claim
2 14, wherein the modified file includes a metadata stream containing a header and
3 an indexing structure, the indexing structure including hashes of the files and a
4 structure to access the hashes of the files, the media further comprising computer-
5 executable instructions that, when executed, direct a computing device to derive a
6 hash of the header and at least part of the structure.

7
8 16. **(Original)** One or more computer readable media as recited in claim
9 14, wherein the modified file includes a metadata stream containing a header, per
10 user information, and an indexing tree, the indexing tree including hashes of the
11 files, branch nodes to access the hashes, and a root node, the media further
12 comprising computer-executable instructions that, when executed, direct a
13 computing device to hash as a single composite the header, the per user
14 information, and the root node.

15
16 17. **(Original)** A data structure stored on a computer-readable medium
17 comprising:

18 representations of modifications made to multiple files stored in a
19 distributed file system; and

20 a digital signature covering at least part of the representations to indicate
21 that the modifications were made by a user with the signature.

22
23 18. **(Original)** A data structure as recited in claim 17, wherein the
24 representations comprise hashes of data in each file that is affected by the
25 modifications.